PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Yung Yip; Alan R. Olson	Examiner:	Tanh Q. Nguyen
Serial No.:	10/047,280	Group Art Unit:	2182
Filed:	January 14, 2002	Docket No.:	10305US01
Title:	SYSTEM HAVING TAPE DRIVE EMULATOR AND DATA CARTRIDGE CARRYING A NON-TAPE STORAGE MEDIUM		

FOURTH SUPPLEMENTAL DECLARATION UNDER 37 C.F.R. 1.131

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

We, Yung Yip, Alan R. Olson, Eric Levinson and Kent Sieffert, declare as follows:

1.   Mr. Yip and Mr. Olson are named inventors in above-referenced Patent Application Serial No.10/047,280. Mr. Yip and Mr. Olson are employees of Imation Corp., the Assignee of record for the present application.

2.   Mr. Eric Levinson and Mr. Kent Sieffert are Applicant's attorneys. Mr. Levinson is an attorney of record in the Patent Application Serial No.10/047,280 and is an employee of Imation Corp., and Mr. Sieffert is retained as outside patent counsel by Imation Corp.

3.   As evidenced by this Declaration and Exhibit A referenced by this Declaration, Mr. Yip and Mr. Olson conceived the inventions set forth in claims 1, 2, 4-8, 10-16, 26, 27, 30, 31, 33 and 34 of this application prior to October 5, 2001, and worked diligently with Mr. Levinson and Mr. Sieffert on constructive reduction of such inventions to practice from prior to October 5, 2001 to January 14, 2002, the filing date of this application.

Conception

4.   Exhibit A, attached to this Declaration, is an Invention Record for Imation Corp. prepared prior to October 5, 2001.

5.   Exhibit A and this Declaration provide evidence of conception of the inventions set forth in pending claims 1, 2, 4-8, 10-16, 26, 27, 30, 31, 33 and 34 prior to October 5, 2001.

6.   Claim 1 requires a system comprising a data cartridge carrying a non-tape storage medium, wherein the data cartridge includes read/write circuitry to access the non-tape storage medium and an external electrical connector coupled to the read/write circuitry. Claim 1 further requires a tape drive emulator having an electrical socket to receive the electrical connector of the data cartridge.

We rely on Exhibit A as evidence that Mr. Yip and Mr. Olson conceived the elements set forth in claim 1 prior to October 5, 2001. Figure 1 of Exhibit A illustrates an industry standard data cartridge housing that has been configured to contain an internal disk drive. On page 2, Exhibit A states that "the data storage element of an existing removable tape cartridge system is replaced with [an] alternative medium such as a rigid disk drive." On page 2, Exhibit A further states that one benchmarked disk drive is a 40 GB IDE disk drive with a minimum sustained transfer rate of 20 MB/s. On page 2, Exhibit A states that "[t]he data cartridge would contain at least the complete mechanical components of the disk drive, including motor, disk(s), and head actuator assembly. Analog electronics such as preamps and write drivers should also be contained within the cartridge." Figure 1 of Exhibit A illustrates the data cartridge having an electrical interface for coupling to a tape drive emulator.

On page 2, Exhibit A states that "[t]he tape drive portion of the system would be replaced with an electronic interface, power supply, and receptacle mechanism for seating and electrically connecting to the cartridge." Figure 1 of Exhibit A illustrates the drive emulator having an electrical socket capable of receiving the data cartridge.

7.   Claim 2 requires that the socket comprises a zero insertion force (ZIF) socket having a set of connectors that engage the electrical connections of the data cartridge. We rely on Exhibit A as evidence that Mr. Yip and Mr. Olson conceived the elements set forth in claim 2 prior to October 5, 2001. Exhibit A illustrates the tape drive emulator as having a zero insertion force (ZIF) connector. On page 3, Exhibit A states that "the drive emulator can contain some form of motorized Zero Insertion Force (ZIF) socket for making robust electrical connection to the cartridge I/O and power input (emphasis added)."

8.   Claim 4 requires a system comprising a data cartridge carrying a non-tape storage medium, wherein the data cartridge includes an external electrical connector. Claim 4 further requires a tape drive emulator having an electrical socket to receive the electrical connector of the data cartridge.

We rely on Exhibit A as evidence that Mr. Yip and Mr. Olson conceived the elements set forth in claim 4 prior to October 5, 2001. Figure 1 of Exhibit A illustrates an industry standard data cartridge housing that has been configured to contain an internal disk drive. On page 2, Exhibit A states that "the data storage element of an existing removable tape cartridge system is replaced with [an] alternative medium such as a rigid disk drive." On page 2, Exhibit A further states that one benchmarked disk drive is a 40 GB IDE disk drive with a minimum sustained transfer rate of 20 MB/s. On page 2, Exhibit A states that "[t]he data cartridge would contain at least the complete mechanical components of the disk drive, including motor, disk(s), and head actuator assembly. Analog electronics such as preamps and write drivers should also be contained within the cartridge." Figure 1 of Exhibit A illustrates the data cartridge having an electrical interface for coupling to a tape drive emulator.

On page 2, Exhibit A states that "[t]he tape drive portion of the system would be replaced with an electronic interface, power supply, and receptacle mechanism for seating and electrically connecting to the cartridge." Figure 1 of Exhibit A illustrates the drive emulator having an electrical socket capable of receiving the data cartridge.

9.   Claim 5 requires that the tape drive emulator comprises a host interface to electrically couple the tape drive emulator to a host computing device. We rely on Exhibit A as evidence that Mr. Yip and Mr. Olson conceived the elements set forth in claim 5 prior to October 5, 2001.

Figure 1 of Exhibit A illustrates the drive emulator having an internal computer or application specific integrated circuit (ASIC) and a "Connection to Host." On page 3, Exhibit A states that "[t]he drive emulator receives commands and data from the host application . . . . An example would be a SCSI host interface between host and emulator . . . ."

10.   Claim 6 requires that the host interface conforms to one of the Small Computer System Interface (SCSI), the Fiber Channel interface, and the Enhanced Integrated Drive Electronics (EIDE) interface. We rely on Exhibit A as evidence that Mr. Yip and Mr. Olson conceived the elements set forth in claim 6 prior to October 5, 2001.

On page 3, Exhibit A states that "[t]he drive emulator function can be executed by a single board computer like a PC104, with the appropriate interface adapters (SCSI, EIDE, ESCON, FIBRE). This can be accomplished with commercially off-the-shelf components."

11.   Claim 7 requires that the tape drive emulator comprises a translation unit to translate commands between the host interface and the electrical socket. We rely on Exhibit A as evidence that Mr. Yip and Mr. Olson conceived the elements set forth in claim 7 prior to October 5, 2001. On page 3, Exhibit A specifically states that "[t]he drive emulator receives commands and data from the host application . . . . An example would be a SCSI host interface between host and emulator . . . ." Page 3, Exhibit A also states that "[t]he drive emulator receives commands and data from the host application, interprets it [the commands and data] into the disk drive interface format, and vice versa [emphasis added]."

12.   Claim 8 requires that the translation unit receives data stream commands from the host interface and translates the data stream commands into disk drive format commands. We rely on Exhibit A as evidence that Mr. Yip and Mr. Olson conceived the elements set forth in claim 8 prior to October 5, 2001.

On page 3, Exhibit A states that "[t]he drive emulator receives commands and data from the host application . . . . An example would be a SCSI host interface between host and emulator . . . ." Page 3, Exhibit A states that "[t]he drive emulator receives commands and data from the host application, interprets it [the commands and data] into the disk drive interface format, and vice versa."

13.   Claim 10 requires that the non-tape storage medium comprises a disk-shaped storage medium. We rely on Exhibit A as evidence that Mr. Yip and Mr. Olson conceived the elements set forth in claim 10 prior to October 5, 2001.

On page 1, Exhibit A states that "rapid access and high data rate data cartridge systems compatible with existing automation and hosts can be achieved by replacing tape with disk drives or other forms of storage elements." Figure 1 of Exhibit A illustrates an industry standard data cartridge housing that has been configured to contain an internal disk drive. On page 2, Exhibit A states that "[t]he data storage element of an existing removable tape cartridge system is replaced with [an] alternative medium such as a rigid disk drive." On page 2, Exhibit A further states that one benchmarked disk drive is a 40 GB IDE disk drive with a minimum sustained transfer rate of 20 MB/s. Page 2, Exhibit A states that "[t]he data cartridge would contain at least the complete mechanical components of the disk drive, including motor, disk(s), and head actuator assembly. Analog electronics such as preamps and write drivers should also be contained within the cartridge." Figure 1 of Exhibit A illustrates the data cartridge having an electrical interface for coupling to a tape drive emulator.

14.   Claim 11 requires that the data cartridge includes a self-contained disk drive housing the disk-shaped storage medium and a disk driver controller. Claim 12 requires that the data cartridge further comprises a disk drive controller to control access to the non-tape storage medium, wherein the controller communicates with the tape drive emulator according to one of the Small Computer System Interface (SCSI), the Fibre Channel interface, and the Enhanced Integrated Drive Electronics / AT Attachment (EIDE/ATA) interface.

We rely on Exhibit A as evidence that Mr. Yip and Mr. Olson conceived the elements set forth in claims 11 and 12 prior to October 5, 2001. Figure 1 of Exhibit A illustrates an industry standard data cartridge housing that has been configured to contain an internal disk drive.

On page 2, Exhibit A states that "[t]he data storage element of an existing removable tape cartridge system is replaced with [an] alternative medium such as a rigid disk drive."

On page 2, Exhibit A further states that one benchmarked disk drive is a 40 GB IDE disk drive with a minimum sustained transfer rate of 20 MB/s. On page 2, Exhibit A states that "[t]he data cartridge would contain at least the complete mechanical components of the disk drive, including motor, disk(s), and head actuator assembly. Analog electronics such as preamps and write drivers should also be contained within the cartridge."

On page 2, Exhibit A states that "[a]ll of the disk drive electronics can be contained within the cartridge (emphasis added)."

On page 3, Exhibit A states that "[t]he drive emulator function can be executed by a single board computer like a PC104, with the appropriate interface adapters (SCSI, EIDE, ESCON, FIBRE). This can be accomplished with commercially off-the-shelf components."

15.   Claim 13 requires that the tape drive emulator provides power to the data cartridge via the electrical connector of the data cartridge.

We rely on Exhibit A as evidence that Mr. Yip and Mr. Olson conceived the elements set forth in claim 13 prior to October 5, 2001.

Exhibit A illustrates the tape drive emulator as having a zero insertion force (ZIF) connector. On page 3, Exhibit A clearly states that "[t]he drive emulator can contain some form of motorized Zero Insertion Force (ZIF) socket for making robust electrical connection to the cartridge I/O and power input (emphasis added)." Thus, the submitted Exhibit A specifically describes that the ZIF connector of the tape drive emulator makes an electrical connection to a power input of the cartridge.

16.   Claim 14 requires that the data cartridge and the tape drive emulator are compatible with existing automation systems. We rely on Exhibit A as evidence that Mr. Yip and Mr. Olson conceived the elements set forth in claim 14 prior to October 5, 2001.

On page 2, Exhibit A expressly states that "the invention describes a rapid access data cartridge and drive emulator which is compatible with existing tape drive formats, automation systems and host applications."

On page 1, Exhibit A states that "rapid access and high data rate data cartridge systems compatible with existing automation and hosts can be achieved by replacing tape with disk drives or other forms of storage elements."

On page 2, Exhibit A lists numerous existing tape library automation systems with which the tape drive emulator could be compatible, including automation systems supporting the 3590, 9840, 9940, SLR, DLT and LTO tape data cartridges.

17. Claim 15 requires that the data cartridge comprise a housing conforming to industry standard dimensions for a magnetic tape drive cartridge.

We rely on Exhibit A as evidence that Mr. Yip and Mr. Olson conceived the elements set forth in claim 15 prior to October 5, 2001.

On page 2, Exhibit A states that "the invention describes a rapid access data cartridge and drive emulator which is <u>compatible with existing tape drive formats</u>, automation systems and host applications."

On page 2, Exhibit A lists numerous existing industry-standard tape data cartridges for which the tape medium may be replaced with a disk-based storage medium. Exhibit A specifically lists the 3590, 9840, 9940, SLR, DLT and LTO industry-standard tape data cartridges.

On page 1, Exhibit A states that "rapid access and high data rate data cartridge systems compatible with existing automation and hosts can be achieved by replacing tape with disk drives or other forms of storage elements."

On page 2, Exhibit A states that "[t]he data cartridge physical dimensions and features are compatible with existing library automation."

18. Claim 16 requires that the tape drive emulator has a form factor of an industry standard tape drive.

We rely on Exhibit A as evidence that Mr. Yip and Mr. Olson conceived the elements set forth in claim 16 prior to October 5, 2001.

On page 2, Exhibit A states that "the invention describes a rapid access data cartridge and drive emulator which is compatible with <u>existing tape drive formats</u>, automation systems and host applications (emphasis added)."

On page 3, Exhibit A further states that the "data cartridge physical dimensions and features are compatible with existing library automation."

19.   Claims 26, 27 and 30, 31, 33 and 34 are directed to a tape drive emulator having requirements similar to those discussed above. As discussed above, we rely on Exhibit A as evidence that Mr. Yip and Mr. Olson conceived the elements set forth in claims 26, 27 and 30-34 prior to October 5, 2001.

Diligence

20.   Mr. Yip, Mr. Olson, Mr. Levinson and Mr. Sieffert worked with reasonable diligence on the inventions set forth in claims 1, 2, 4-8, 10-16, 26, 27, 30, 31, 33 and 34 during the three month period from prior to October 5, 2001 to at least January 14, 2002, the filing date of this application, i.e., the date of our constructive reduction to practice.

21.   During the period from prior to October 5, 2001 to January 14, 2002, Mr. Yip and Mr. Olson worked with their attorneys, Mr. Sieffert and Mr. Levinson, with reasonable diligence to prepare a first draft, a revised draft and a final draft of present patent application for filing with the United States Patent Office.

22.   Prior to October 5, 2001, Mr. Levinson, counsel for the Assignee (Imation Corp.) engaged Mr. Sieffert to prepare the patent application. Exhibit B, attached to this Declaration, is a copy of an engagement letter sent to Mr. Sieffert by Mr. Levinson prior to October 5, 2001.

23.   On October 9, 2001, Mr. Sieffert met with Mr. Yip. During this meeting, Mr. Yip discussed the details of the invention. Exhibit C, attached to this Declaration, is a copy of an invoice that evidences the meeting between Mr. Kent J. Sieffert and Mr. Yip. Any period between October 5, 2001 and October 9, 2001 during which the invention was not worked on was due to holidays or normal attorney workload associated with Mr. Sieffert's practice.

24.   Mr. Sieffert prepared a draft of the present application between October 9, 2001 and December 10, 2001. Mr. Sieffert communicated that draft to Mr. Yip and Mr. Olson on December 10, 2001. Exhibit D, attached to this Declaration, is a copy of an electronic communication prepared by Mr. Sieffert and sent to Mr. Yip and Mr. Olson on December 10, 2001. Any period between prior to October 9, 2001 and December 10, 2001 during which the invention was not worked on was due to holidays or normal attorney workload associated with Mr. Sieffert's practice.
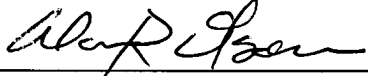
25.   Upon receiving the draft patent application on December 10, 2001, Mr. Yip and Mr. Olson commenced reviewing the draft of the present application with reasonable diligence, and Mr. Yip met with Mr. Kent J. Sieffert on December 14, 2001 to communicate their recommended revisions of the draft of the present application. Exhibit E, attached to this Declaration, is a copy of an invoice that evidences the meeting between Mr. Kent J. Sieffert and Mr. Yip on December 14, 2001. Any period between prior to December 10, 2001 and December 14, 2001 during which the invention was not worked on was due to normal attorney workload taken up by Mr. Sieffert in chronological order according to his docket. and carried out expeditiously.
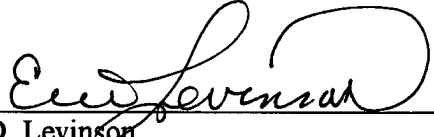
26.   During the period from December 14, 2001 to December 21, 2001, Mr. Yip and Mr. Olson worked with Mr. Sieffert to revise the patent application. Exhibit F, attached to this Declaration, is a copy of an electronic communication prepared by Mr. Sieffert on December 21, 2001. As evidenced by Exhibit E, Kent J. Sieffert communicated a revised draft to Mr. Yip, Mr. Olson and Mr. Eric Levinson on December 21, 2001 for review and filing. Any period between prior to December 14, 2001 and December 21, 2001 during which the invention was not worked on was due to holidays or normal attorney workload associated with Mr. Sieffert's practice.
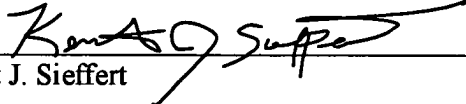
27.   Mr. Levinson received the revised draft on December 21, 2001. During the fifteen (15) business-day period between December 21, 2001 (a Friday) and January 14, 2002 (a Monday), excluding Christmas (December 25, 2001) and New Years Day (January 1, 2002), Mr. Levinson worked with reasonable diligence to review and prepare the patent application for filing. Mr. Levinson worked on or directed his assistant in proofing the patent application, preparation of formal filing papers, meeting with Mr. Yip and Mr. Olson to review the patent application and execution of the declaration, and filing the patent application with the U.S. Patent Office. The present application was filed on January 14, 2002, as evidenced by the filing date awarded the application. During the period between December 21, 2001 and January 14, 2002), Mr. Levinson also worked on a backlog of unrelated cases taken up in chronological order according to his docket as in-house patent counsel for Imation. Mr. Levinson carried out this work expeditiously, and filed the application on January 14, 2002. Any period of time between December 21, 2001 and January 14, 2002, during which the invention was not worked on by Mr. Levinson or his assistant under his supervision was due to intervening holidays (Christmas Day, December 25, 2001, and New Years Day, January 1, 2002), and the normal workload associated with Mr. Levinson's practice that was taken up in chronological order.

We hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Date: 5 - 10 - 2006   Signed: _____

                                   Yung Yip

Date: May 10, 2006   Signed: _____

                                   Alan R. Olson

Date: 5|10|06   Signed: _____

                                   Eric D. Levinson

Date: 5|9|06   Signed: _____

                                   Kent J. Sieffert

ℱimation   Invention Record

I.I.R. # 2001-0094	Status: Recorded

Originating Imation Unit: Data Storage Systems	Send Original to I.P. Scientist/Manager:
Title:	Robert W. Frits/CS/Imation

Format Compatible Rapid Access Data Cartridge System with Extended Capacity

Investigator Information:

Investigator	
Yung Yip	Imation Emp. Num. 684575
Tech. Ntbk. No. 250	Div. / Lab Name Data Storage Systems Lab
Investigator Alan R. Olson/DSP/Imation	Imation Emp. Num. 682008
Tech. Ntbk. No.	Div. / Lab Name Data Storage Systems Lab
Investigator	Imation Emp. Num.
Tech. Ntbk. No.	Div. / Lab Name

Include all of the following:

1. Short description of the invention:

Rapid access and high data rate data cartridge systems compatible with existing automation and hosts can be achieved by replacing tape with disk drives or other forms of storage elements.

2. Describe the utility of the invention and describe the advantages of this invention over the current art.

The convergance of unit storage cost between rigid disks and tape systems makes this concept an economically viable disruptive technology. It also provides users of library systems a new dimension for near line applications. This invention can also competes directly with optical jukebox applications.

The Invention

This invention describes a rapid access data cartridge and drive emulator which is compatible with existing tape drive formats, automation systems and host applications. This invention also provides a means to extend the format capacity and data transfer rate, without changes to the host application. The concept is illustrated in figure 1.
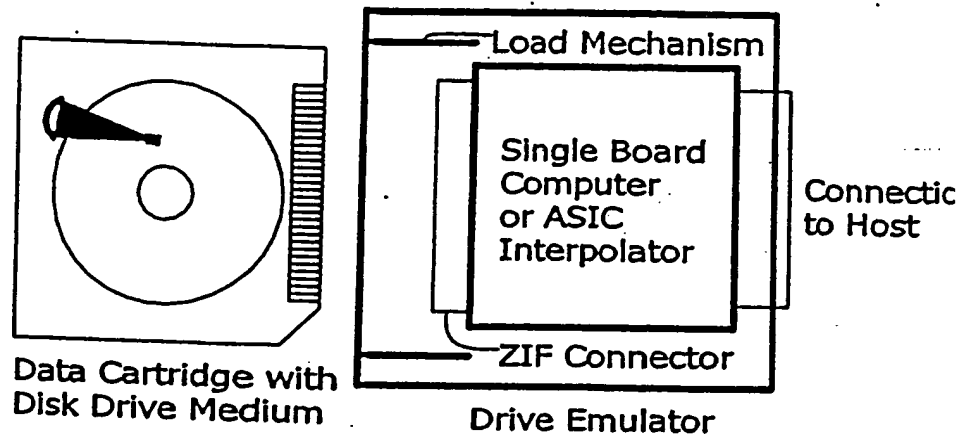

Figure 1

- ❖ The data storage element of an existing removable tape cartridge system is replaced with alternative medium such as a rigid disk drive.
  - ➤ The data cartridge physical dimensions and features are compatible with existing library automation.
  - ➤ Once the cartridge is loaded and powered up, time to data will be measured in milliseconds.
  - ➤ Current benchmark (8/2001) for single platter IDE disk drives is 40 GB, with a minimum of 20 MB/s sustained transfer rate, and approximately $50 OEM pricing.

- ❖ The tape drive portion of the system would be replaced with an electronic interface, power supply, and receptacle mechanism for seating and electrically connecting to the cartridge. This device will herein be referred to as the "drive emulator".
  - ➤ The host application would see the drive emulator as a tape drive of the type that is being emulated.
  - ➤ Migration to larger capacity and higher data rates by upgrading the disk grive mechanism, and does not necessarily require a change in drive emulator hardware or host application drivers
  - ➤ Examples of systems where this can be implemented are 3590, 9840, 9940, SLR, DLT, and LTO.

- ❖ The data cartridge would contain at least the complete mechanical components of the disk drive, including motor, disk(s), and head actuator assembly. Analog electronics such as preamps and write drivers should also be contained within the cartridge.

- ❖ All of the disk drive electronics can be contained within the cartridge.

- ➢ The advantage of embedding all the disk drive electronics within the cartridge is the ability to use an industry standard interface (such as SCSI or IDE), without proprietary content.
- ➢ This minimizes customization, and eases migration to larger capacity drives.
- ➢ The disadvantage of embedding all the disk drive electronics into the cartridge is added weight, potentially higher cost, and lack of proprietary content.

- ❖ A portion of the disk drive electronics can reside on the drive emulator.
  - ➢ In high volume scenarios, this is approach can reduce cost to the cartridge.
  - ➢ The disadvantage of this approach is a high degree of customization, restrictions on product migration, and limitations on disk drive suppliers.

- ❖ The drive emulator can contain some form of motorized Zero Insertion Force (ZIF) socket for making robust electrical connection to the cartridge I/O and power input.

- ❖ The drive emulator receives commands and data from the host application, interprets it into the disk drive interface format, and vise versa. An example would be a SCSI host interface between host and emulator, and an EIDE interface between the emulator and cartridge disk drive.
  - ➢ The drive emulator function can be executed by a single board computer like a PC104, with the appropriate interface adapters (SCSI, EIDE, ESCON, FIBRE). This can be accomplished with commercially off-the-shelf components.
  - ➢ The same functionality with higher speed and lower cost can be achieved via custom ASIC.

- ❖ Storage elements other than disk drives can also be used (ie. Flash memory).

⚡︎imation

RECEIVED

Eric D. Levinson
Senior Counsel

Imation Corp.
Legal Affairs
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Kent Sieffert, Esq.
Shumaker & Sieffert, P.A.
150 Gateway Corporate Center
576 Bielenberg Drive
St. Paul, MN 55125

Re: *New U.S. Patent Application based upon Imation*
        Invention Record 2001-0094
        Yung Yip and Alan R. Olson
        Format Compatible Rapid Access Data Cartridge
        System with Extended Capacity
        File Number: 10305US01

Dear Kent:

Please review the subject Imation Invention Record with a view toward the preparation of a patent application to be filed in the United States Patent and Trademark Office.

<u>After</u> we have determined a fixed amount or a budgeted amount, please take the necessary steps to prepare a patent application based upon the subject IIR. You may contact Yung Yip at 651/704-5091 or Alan Olson at 651/704-4821 regarding the IIR.   Please supply me with a copy of all correspondence with the investigator(s).   Please prepare the application in final form for filing.   Please transmit the application to me in final form, along with an Imation diskette containing an electronic version of the application (preferably in Microsoft Word 7.0 format), or

by e-mail using the Norton Secret Stuff Program. I will handle filing the application with the USPTO. At that time, please also supply me with a set of claims suitable for filing via the PCT.

Please invoice me monthly during your preparation efforts identifying the **file number** listed in the subject heading. Each monthly invoice should also include the cumulative amount invoiced for this project. Please let me know immediately if at any time you feel that either the cost estimate or time estimate will be exceeded.
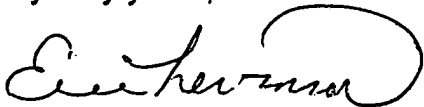
Please contact Kevin Anderson (952/703-0167), Paul Stenger (651/733-9526), or Steve Kogler (651/501-0493) for the preparation of the drawings associated with this application. These individuals have contracted with Imation for the preparation of drawings for patent applications. They will invoice Imation directly for their services.

Please arrange with my assistant, Sue Daly (651/704-5607), for the preparation of the formal papers (declaration, assignment, cover letter, etc.). The paperwork shall specify Imation as the mailing address and telephone number for correspondence with the USPTO. Under no circumstances should any paperwork be filed with the USPTO from your office indicating you or your firm as the origin of the paperwork. Imation will docket this case. Please do not include any charges, whether explicitly enumerated or not, for docketing or control of this case. Imation releases you and your firm from any liability to Imation for failure to do so.

At the time of submission of the application to me for filing, please also supply me with either a list or, preferably, a copy of each document that you deem relevant to the examination of this application in the USPTO. I will handle the preparation and filing of an Information Disclosure Statement in the USPTO.

I look forward to your response. Please let me know if you have any questions.

Very truly yours,

Eric D. Levinson

EDL/sjd

Enc.

EXHIBIT C

Shumaker & Sieffert, P.A.

8425 Seasons Parkway, Suite 105
St. Paul, MN 55125

Invoice

Date:	No.
10/31/2001	929

ATTN: Eric D. Levinson

Imation Corp.
P.O. Box 64898
St. Paul, MN 55164-0898

TERMS	DUE DATE	YOUR REFERENCE NO	SS MATTER NO
Net 30	11/30/2001	10305	1001-203US01

DESCRIPTION	HRS/QTY	RATE	TIMEKEEPER	SERVICED	AMOUNT
Review invention disclosure statement.	1.1	285.00	KJS	9/26/2001	
Photocopies / Prints	1	0.20		10/1/2001	
Prepare for and conduct invention disclosure interview.	2.1	285.00	KJS	10/9/2001	
				Total	

Tax ID:41-1988229

Shumaker & Sieffert contact: Kent J. Sieffert

Kent J. Sieffert

From: Kent J. Sieffert
Sent: Monday, December 10, 2001 3:46 PM
To: 'edlevinson@imation.com'; 'yyip@imation.com'
Subject: Patent Application - Imation 10301US01-Tape Emulation

Yung, attached is a first draft for the above-referenced patent application. Specifically, I have attached the specification in password-protected Microsoft Word format, and figures in password-protected PDF format. I'll call you with the password.

Please review the patent application for completeness and accuracy. Please contact me with comments or suggestions.

Regards,

Kent J. Sieffert
Shumaker & Sieffert, P.A.
150 Gateway Corporate Center I
576 Bielenberg Drive
St Paul, MN 55125
tel 651-735-1100 ext. 11
fax 651-735-1102
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web:www.ssiplaw.com

Application - first   Figures.pdf (40 KB)
draft.doc ...

Shumaker & Sieffert, P.A.

8425 Seasons Parkway, Suite 105
St. Paul, MN 55125

Invoice

Date:	No.
12/31/2001	1286

ATTN: Eric D. Levinson

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St. Paul, MN 55164-0898

TERMS	DUE DATE	YOUR REFERENCE NO	SS MATTER NO
Net 30	1/30/2002	10305	1001-203US01

DESCRIPTION	HRS/QTY	RATE	TIMEKEEPER	SERVICED	AMOUNT
Work on application.					
Work on application.	8.5	285.00	KJS	12/5/2001	
Work on application.	5	285.00	KJS	12/6/2001	
Review and revise application.	0.17	285.00	KJS	12/7/2001	
Meet with Mr. Yip to review first draft of application.	1.2	310.00	SJS	12/10/2001	
	2.1	285.00	KJS	12/14/2001	
Revise application.					
Revise application.	0.7	285.00	KJS	12/18/2001	
Photocopies / Prints	3.5	285.00	KJS	12/19/2001	
	1	0.95		12/6/2001	

	Total

Tax ID:41-1988229

Shumaker & Sieffert contact: Kent J. Sieffert

Kent J. Sieffert

From:	Kent J. Sieffert
Sent:	Friday, December 21, 2001 2:04 PM
To:	'edlevinson@imation.com'
Cc:	'yyip@imation.com'; Kent J. Sieffert; 'sjdaly@imation.com'; Shirley A. Betlach
Subject:	RE: Patent Application - Imation 10305US01-Tape Emulation

Application - Figures.pdf (40 KB)
Final.doc (80 KB...

Eric,

Attached is a final draft for the above-captioned patent application. In particular, I have attached a password protected Word file and a password-protected PDF of the figures. In addition, I am mailing you copies of the figures for filing as the PDF has dropped some markings.

Please let me know if I can be of further assistance.

Happy Holidays,

Kent

1